

City of Franklin

STORMWATER MANAGEMENT PLAN UPDATE - 2002

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Executive Summary

This report is an update to the City's 1993 Stormwater Management Plan. Since 1993, the population of the City of Franklin has increased by more than 30 percent, and almost 2000 acres of vacant land have been developed. It includes all new engineered ponds installed since the 1993 Stormwater Management Plan, as well as the ponds that were included in the 1993 Plan modeling. Pond high water levels and the storage volumes in each pond have been inventoried. The report will serve as a comprehensive guide for stormwater management in the City. The plan will provide a basis for local flood control planning and design, as well as provide stormwater management procedures for development.

The primary objectives of the Franklin Stormwater Management Plan are to preserve and use natural water storage and retention systems in order to:

- Reduce to the greatest practical extent the public capital expenditures necessary to control excessive volumes and rates of runoff.
- Improve and preserve water quality.
- Prevent flooding.
- Reduce erosion and sedimentation from surface flows.
- Promote groundwater recharge.
- Protect and enhance fish and wildlife habitat.
- Provide water recreational opportunities.
- Enhance the natural beauty of the landscape.
- Secure the other benefits associated with the proper management of surface water.

Storm water drainage facilities are an essential part of the development of any municipality. As an area develops from rural uses to urban uses, culverts and drainage ways, which had been adequate for rural stormwater runoff, can become overloaded, causing flooding. The primary function of an urban storm drainage system is to protect the water resources of the City and minimize economic loss and inconvenience caused by periodic flooding. The ponding areas are analyzed for a 100-year storm (5.5 inches of rain in 24 hours). Most storm sewer pipes are

designed for a 10-year storm (1.8 inches of rain in 1 hour and a total of 3.7 inches of rain in 24 hours). Overland drainage routes toward ponding areas are also required for complete protection from 100-year storms.

This report differs from the 1993 plan in that it assumes the current practices of requiring storm water ponds during development will continue. The 1993 plan looked at storm water management in a regional approach, and followed the neighborhood planning boundaries. This provided a good basis for storm water management, but it also generated the need for the City to take a very proactive approach by purchasing land and developing the storm water ponds. Since the 1993 plan, the City has put the burden of storm water management on the developer, as many communities have. Accordingly, those practices generated the need to look at storm water management on a watershed basis. This plan can be used separately from the 1993 plan; however, the 1993 plan should be kept as a reference for any regional storm water interests.

This report suggests the City continue with their current stormwater management policies with a few improvements. By requiring developers to install stormwater management facilities, costs to the City are minimized. However, procedural changes for stormwater management review and improved pond features will require more of developers and improve water quality and quantity controls.

The present stormwater quality conditions have also been analyzed. This information is useful in predicting the pollutant removal as more stormwater management facilities are installed.

An important component in this update is the inclusion of water quality elements in all new stormwater ponds. Several water quality recommendations, including staged outlets, forebays, and planting guidelines, are described in this report.

This report also suggests the City consider a comprehensive natural resources review with each new development. While the details of this review procedure is not part of this plan, controlling how development occurs, and the resulting stormwater runoff, is obviously related.

Finally, the City will need to develop and adopt a stormwater management ordinance, as required in Wisconsin Administrative Code NR 216 and MMSD Chapter 13. Some model ordinances are included in this report for the City's use.